2661

Attorney's Docket No.: 001340.P081   *Patent*

#5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
)
John Josef Hench et al.)   Examiner: Unassigned
)
Application No. 09/710,703)   Art Unit: 2661
)
Filing Date: November 10, 2000)
)
For: METHOD AND APPARATUS FOR)
IMPAIRMENT DIAGNOSIS IN)
COMMUNICATION SYSTEMS)
_____)

Commissioner for Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed is a copy of Information Disclosure Citation Form PTO-1449 together with

copies of the documents cited on that form. It is respectfully requested that the cited documents

be considered and that the enclosed copy of Information Disclosure Citation Form PTO-1449 be

initialed by the Examiner to indicate such consideration and a copy thereof returned to

applicant(s).

Pursuant to 37 C.F.R. § 1.97, the submission of this Information Disclosure Statement is

not to be construed as a representation that a search has been made and is not to be construed as

an admission that the information cited in this statement is material to patentability.

Pursuant to 37 C.F.R. § 1.97, this Information Disclosure Statement is being submitted

under one of the following (as indicated by an "X" to the left of the appropriate paragraph):

<u> X </u>   37 C.F.R. §1.97(b).

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                   A certification pursuant to 37 C.F.R. §1.97(e) <u>or</u>

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If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: <u>Sept. 26</u>, 2001   <u>Sanjeet Dutta</u>
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Substitute For Form **1449A/PTO** (Modified 5-19-2000) **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(use as many sheets as necessary)*	*Complete if Known*	
	Application No	09/710,703
	Filing Date	November 10, 2000
	First Named Inventor	John Josef Hench et al.
	Group Art Unit	2661
	Examiner Name	Unassigned
Sheet 1 of 9	**Attorney Docket Number**	001340.P087

U.S. PATENT DOCUMENTS

Examiner Initials*		U.S. Patent Document Number	Name of Patentee or Applicant of Cited Document	Date of Publication Cited Document MM-DD-YYYY	Filing date if Appropriate
		6,195,594	Shah et al.	February 27, 2001	June 30, 1999
		5,880,959	Shah et al.	March 9, 1999	November 25, 1997
		6,230,062	Shah	May 8, 2001	June 30, 1999

FOREIGN PATENT DOCUMENTS

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		Office or Country	Number	Date			

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

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	LENNART LJUNG, IEEE Transactions on Automatic Control, Vol. AC-23, No. 5, October 1978, "Convergence Analysis of Parametric Identification Methods", pp 770-783.	No
	SERGIO VERDU, Cambridge University Press, "Multiuser Detection", 1998, pp 1-26, 56-66, 154-175, 384-387.	No
	GUANGHAN XU et al., IEEE Transactions on Signal Processing, Vol. 43, No. 12, December 1995, "A Least Squares Approach to Blind Channel Identification", pp 2982-2993.	No
	ALEXANDRA DUEL-HALLEN et al., IEEE Transactions on Communications, Vol. 37, No. 5, May 1989, "Delayed Decision-Feedback Sequence Estimation", pp 428-436.	No

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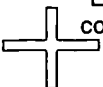## OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

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		K. GIRIDHAR et al., IEEE Transactions on Communications, Vol. 45, No. 4, April 1997, "Nonlinear Techniques for the Joint Estimation of Cochannel Signals", pp 473-484.	No
		LANG TONG et al., IEEE Transactions on Signal Processing, Vol. 47, No. 9, September 1999, "Joint Order Detection and Blind Channel Estimation by Least Squares Smoothing", pp 2345-2355	No
		ERIC MOULINES et al., IEEE Transactions on Signal Processing, Vol. 43, No. 2, February 1995, "Subspace Methods for the Blind Identification of Multichannel FIR Filters", pp 516-525.	No
		ALEXANDRA DUEL-HALLEN et al., IEEE Personal Communications, April 1995, "Multiuser Detection for CDMA Systems", pp 46-58.	No
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Sheet 3 of 9	Attorney Docket Number	*001340.P081*

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		UPAMANYU MADHOW et al., IEEE Transactions on Communications, Vol. 42, No. 12, December 1994, "MMSE Interference Suppression for Direct-Sequence Spread-Spectrum CDMA" pp 3178-3188	No
		C. RICHARD JOHNSON, JR. et al., Proceedings of the IEEE, Vol. 86, No. 10, October 1998, "Blind Equalization Using the Constant Modulus Criterion: A Review", pp 1927-1950	No
		P. CIBLAT et al., "Asymptotic Analysis of Blind Cyclic Correlation Based Symbol Rate Estimation", September 2000	No
		DR. DENNIS J. RAUSCHMAYER, Macmillan Technology Series, "ADSL/VDSL Principles", 1999, pp 131-155.	No
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		LENNART LJUNG, Prentice-Hall Information and System Sciences Series, "System Identification, Theory for the User", 1987, pp 141-163, 239-263.	No
		YAAKOV BAR-SHALOM et al., Artech House, Inc., "Estimation and Tracking: Principles, Techniques, and Software", 1993, pp 450-465.	No
		International Telecommunication Union, ITU-T Telecommunication Standardization Sector of ITU, G.810, "Definitions and Terminology for Synchronization Networks", August 1996, pp 1-20	No
		ADSL Forum Technical Report TR-024 for Network Management Working Group, "DMT Line Code Specific MIB", June 1999, pp 1-7	No

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	Examiner Name	*Unassigned*
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	J. CIOFFI, EEE379A, "Digital Communication: Signal Processing Class notes, Stanford University, pp 167-174, 194-197.	No
	ARTHUR GELB et al., The Analytic Sciences Corporation, "Applied Optimal Estimation", 1974, pp 156-179.	No
	SIMON HAYKIN, Prentice Hall Information and System Sciences Series, "Adaptive Filter Theory", Third Edition, 1996, pp 772-815.	No
	IAN R. PETERSEN et al., Control Engineering, "Robust Kalman Filtering for Signal and Systems with Large Uncertainties", 1999, pp 35-55.	No

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Sheet 6 of 9

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		STEPHEN BOYD et al., "Convex Optimization", Course Reader for EE364: Introduction to Convex Optimization with Engineering Applications, Stanford University, Winter Quarter 1996-1997, pp 1-146.	No
		AMIT MATHUR, Dissertation from Electrical and Computer Engineering, University of California, Santa Barbara, "Algorithms for Cochannel Source Separation and Signal Estimation", December 1996, pp 1-165.	No
		EDWARD A. LEE et al., Kluwer Academic Publishers, "Digital Communication", Second Edition, 1994, pp 408-424, 468-486.	No
		THOMAS STARR et al., Prentice Hall, Communication Engineering and Emerging Technologies, "Understanding Digital Subscriber Line Technology", 1999, pp 297-354.	

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	D. GODARD, IEEE Transaction Communications, Vol. COM-28, No. 11, November 1980, "Self-Recovering Equalization and Carrier Tracking in Two-Dimensional Data Communication Systems", pp 1867-1875.	No
	LENNART LJUNG, PTR Prentice Hall Information and System Sciences Series, "System Identification, Theory for the User", Second Edition, 1999, pp 79-139, 197-279, 317-360.	No
	RAÚL A. CASAS et al., Broadcasting & Cable,"Current Approaches to Blind Decision Feedback Equalization", August 1999, pp 1-52.	No
	JOHN G. PROAKIS, McGraw Hill Series in Electrical and Computer Engineering, "Digital Communications, Third Edition, 1995, pp 267-286.	No

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		CRAIG MICHAEL TEUSCHER, Dissertation submitted as requirement for the degree of Dr. of Philosophy in Engineering-Electrical Engineering and Computer Sciences, "Low Power Receiver Design for Portable RF Applications: Design and Implementation of an Adaptive Multiuser Detector for an Indoor, Wideband CDMA Application, Fall 1998, pp 37, 43-52	No
		CLAES TIDESTAV et al., Signals and Systems, Uppsala University, "Realizable MIMO Decision Feedback Equalizers", International Conference on Acoustics, Speech, and Signal Processing (ICASSP99) March 1999, Phoenix, AZ, V.5, pp 2591-2594.	No

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		K. SAM SHANMUGAN et al., John Wiley and Sons, "Random Signals, Detection, Estimation and Data Analysis", 1988, pp 341-377.	No
		HARRY L. VAN TREES, Massachusetts Institute of Technology, "Detection, Estimation, and Modulation Theory", 1968, pp 19-163, 239-418.	

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